

REMARKS

Reconsideration and withdrawal of the rejections set forth in the above-mentioned Office Action in view of the following remarks are respectfully requested.

Claims 1, 4-18, 20-22 and 25-53 are currently pending in the application, with Claims 1, 38 and 50 being the independent claims. Claims 2, 3, 19, 23 and 24 were previously cancelled.

In the Official Action, Claims 1, 38 and 50 were rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over Claim 1 of U.S. Patent No. 6,676,254 (Nagashima et al. '254) in view of U.S. Patent No. 5,953,031 (Omata et al.). Claims 1, 4-18, 20-22, 25-37 and 51 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,676,734 (Nagashima et al. '734). Claims 38-50, 52 and 53 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Nagashima et al. '734. These rejections are respectfully traversed.

Applicants' invention as recited in independent Claim 1 is directed to a recording method including a step of providing an ink from a recording head to a recording medium through a gap provided between the recording head and the recording medium. The ink being supplied to the recording head from an ink tank including an ink contact member and the ink contacting the ink contact member. The ink includes (i) a fluorescent coloring material; (ii) a nonionic surfactant; (iii) a compound which is not compatible with (ii); and (iv) a liquid medium for dissolving or dispersing (i), (ii) and (iii). The ink contact member is an ink-holding member made of polypropylene.

Applicants' invention as recited in independent Claim 38 is directed to an ink-cartridge including an aqueous ink and an ink contact member. The ink includes (i) a fluorescent coloring material; (ii) a nonionic surfactant; (iii) a compound which is not compatible with (ii); and (iv) a liquid medium for dissolving or dispersing (i), (ii) and (iii). The ink contact member is an ink-holding member made of polypropylene.

Applicants's invention as recited in independent Claim 50 is directed to an ink tank including an aqueous ink, an ink container and an ink-holding member. The ink includes (i) a fluorescent coloring material; (ii) a nonionic surfactant; (iii) a compound which is not compatible with (ii); and (iv) a liquid medium for dissolving or dispersing (i), (ii) and (iii). The ink-holding member includes polypropylene.

Applicants submit that none of the cited art teaches or suggests important features of the present invention.

Before discussing the merits of the rejections, Applicants believe that some background regarding the present invention would be helpful. The following discussion is intended for illustrative purposes only, and is not intended to limit the scope of the claims.

Fluorescence will vary depending on the molecular state of a fluorescent coloring material in an ink. For instance, good fluorescence is obtained when the fluorescent coloring material molecules are present in a monomolecular state. The intensity of fluorescence is lowered when the fluorescent coloring material becomes associated or agglomerated. This phenomenon is called "concentration quenching." Specifically, as the concentration of a fluorescent coloring material increases, the intensity of fluorescence starts decreasing at a certain concentration. The reason for concentration quenching is believed to be because the molecules of the fluorescent coloring material tend to easily associate or agglomerate. Further, the intensity of fluorescence can be affected by the material contacting the ink. For example, components of an ink or decomposed materials of an ink container may promote association or agglomerate fluorescent coloring material molecules. The effect of decomposed material of an ink container on association or agglomeration of the fluorescent coloring material molecules was not recognized previously.

Applicants attempted to solve the above problem by using not only an ink having a specific composition but also polypropylene as materials for an ink-holding member. As a result, excellent fluorescence intensity can be obtained and then maintained. This particularly

significant effect is apparent from a comparison of the results of the examples and comparative examples in the specification of the present application. Specifically, Table 2 shows that the results of the comparative examples are clearly inferior to the results of the examples regarding the intensity of fluorescence.

Regarding the double-patenting rejection, Applicants acknowledge the Examiner's comments that Applicant's arguments filed on April 13, 2005 were not persuasive. Applicants' maintain their position as set forth in the April 13, 2005 Amendment, however, that one of ordinary skill in the art would not have been motivated to combine Nagashima et al. '254 with Omata et al. without some specific teaching that polypropylene is advantageous for constructing an ink tank holding a fluorescent coloring material. This is especially true in light of the fact that Omata et al. does not describe suitable ink compositions. Nevertheless, Applicants will consider filing a terminal disclaimer when the other rejections have been overcome.

Nagashima et al. '734 is directed to an ink having first and second organic compounds which are incompatible with each other, at least one of a compound exhibiting fluorescence properties and a coloring material exhibiting fluorescence properties, and a liquid medium. Nagashima et al. '734 also discloses an ink container for holding the ink. As materials for the ink container, Nagashima et al. '734 at column 29, lines 20-23 states that "polyurethane, cellulose, polyvinyl acetate, polyolefin or a polymer formed by a condensation reaction of organic compound(s) is preferably used as a material for the ink holding member." The Examiner suggests that this disclosure anticipates Applicants' ink-holding member made of polypropylene. Applicants respectfully disagree.

The number of compounds encompassed within the category of acceptable materials for the ink holding member of Nagashima et al. '734 is incredibly large. Each of the terms "polyolefin" and "polymer" used in Nagashima et al. '734 include large numbers of polymers. Some of these polymers are not suitable for use in Applicants' present invention. For

example, polyurethane is included within the definition of “polymer.” As can be seen from the comparative examples of Applicants’ specification, when the ink-holding member is made of polyurethane, the advantages of the present invention are not obtained.

According to MPEP § 2131.02, when a compound is not specifically named, a generic formula will only anticipate the specific compound within the generic formula if one of ordinary skill in the art could at once envisage the specific compound. That is “[o]ne of ordinary skill in the art must be able to draw the structural formula or write the name of each of the compounds included in the generic formula before any of the compounds can be ‘at once envisaged.’” Id. Here, the generic formula is a “polymer formed by a condensation or polymerization reaction of organic compound(s).” Nagashima et al. ‘734, col. 29, lines 21-22. Applicants submit that due to the large number of polymers that may be formed by such a condensation or polymerization reaction, one of ordinary skill in the art would not at once envisage the use of polypropylene.

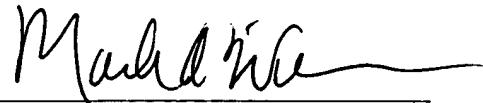
Thus, Applicants submit that Nagashima et al. ‘734 does not teach or suggest, at least, an ink-holding member made of polypropylene or an ink-holding member that comprises polypropylene, as recited in the independent claims. Accordingly, reconsideration and withdrawal of the § 102(e) rejections are requested.

Applicants submit that the present invention is patentably defined by independent Claims 1, 38 and 50. Dependent Claims 4-18, 20-22, 25-37, 39-49 and 51-53 are also patentable, in their own right, for defining features of the invention in addition to those recited in the independent claims. Individual consideration of the dependent claims is requested.

Applicants submit that the application is in condition for allowance. Favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action, and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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